

REMARKS

Claims 2-8 are pending in this application, of which claims 2 and 5 have been amended and claim 8 is newly added. Claim 1 has been canceled.

A Substitute Specification is attached hereto correcting various grammatical, idiomatic and spelling errors. No new matter has been added.

The Examiner has objected to the drawings for the following reasons:

- ① The heat-conductive sheet(s) recited in claims 4, 5 and 7, as discussed on pages 10-13 of the specification, are not shown in the drawings. Figs. 1-3 have been corrected to show these heat-conductive sheets.
- ② Fig. 3 fails to show "hole 610". This has been corrected in Fig. 3.
- ③ Fig. 3 shows set screws 605 attaching the reinforcing plate 630 to the reinforcing plate covering hole 610. Page 13, line 1 of the specification has been amended to disclose set screws 605 performing this function.
- ④ Fig. 4 should be labeled "Prior Art". Fig. 4 has been appropriately corrected.

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Reply to OA dated May 6, 2004

The Examiner has required a new, more descriptive title and a new Abstract.

Accordingly, the title has been amended to read:

PROBE CARD HAVING A COIL SPRING INTERPOSED
BETWEEN A SUPPORT MEMBER AND A CONTRACTOR
UNIT.

The Abstract has also been corrected.

The Examiner has objected to the disclosure and claim 5 for reciting a single heat-conductive sheet.

Accordingly, claim 5 has been amended to recite that there are more than one heat-conductive sheets.

Claims 1-3 and 6 stand rejected under 35 USC §103(a) as unpatentable over Applicants' Admitted Prior Art showing in Fig. 4 (hereinafter "APA").

Applicant respectfully traverses this rejection.

APA suffers from the following drawback disclosed on page 2, lines 12-21 of the specification of the instant application:

Specifically, the leaf spring 450 that supports the contactor unit 300 has a great amount of pressure change in view of its characteristic, whereby excessive force is exerted on the contactor unit 300 to thereby produce a deformation or damage of the contactor unit 300 by this force. The deformation or damage of the contactor unit 300 has a problem of entailing non-uniform height of the contactor to thereby bring about a defective continuity to the subject to be tested. Similarly, the above-mentioned deformation or damage also has a problem of bringing about a defective continuity to the interposer 200.

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In contrast, the present invention utilizes a coil spring in place of the leaf spring, which provides the following advantage, as disclosed from page 10, line 23 to page 11, line 7 of the specification of the instant application:

In the probe card having the above-mentioned configuration, the contactor unit 300 is supported by the coil spring 420 interposed between the support member 410 and the contactor unit 300 toward the vertical direction, whereby a rate of change of compressive force to the stroke amount is small compared to the conventional one supporting with a leaf spring, thereby obtaining a satisfactory linearity of the stroke amount and elastic force. Accordingly, a damage or deformation of the needle unit holder 320 can accurately be prevented, as well as the parallelism of the contactor unit 300 can easily be adjusted.

Thus, the coil spring is critical to the patentability of the claimed invention, and the coil spring cannot be substituted with the leaf spring without subjecting the structure to undesirable stresses.

Thus, the 35 USC §103(a) rejection should be withdrawn.

The Examiner has indicated that claims 4-5 and 7 would be allowable if rewritten in independent form. Applicant respectfully defers this action until a FINAL Office Action, if any, is received.

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In view of the aforementioned amendments and accompanying remarks, claims 2-8, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Replacement Sheets of Drawing (Figs. 1-4)
Substitute Abstract of the Disclosure
Substitute Specification w/Marked-Up Version

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AMENDMENT TO THE DRAWINGS:

The attached sheets of drawings include changes to Figs. 1-4. These sheets replace original sheets including Figs. 1-4.